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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,638	12/21/2001	Charles J. Persico	010286	1499

23696 7590 03/21/2006

QUALCOMM, INC  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER

NGUYEN, THUAN T

ART UNIT PAPER NUMBER

2618

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/027,638	<b>Applicant(s)</b> PERSICO, CHARLES J.	
	<b>Examiner</b> THUAN T. NGUYEN	<b>Art Unit</b> 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 18-22 and 28-32 is/are pending in the application.  
     4a) Of the above claim(s) 6-17 and 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 18-22 and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/13/06 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

3. Claims 1-5, 18-22, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haugli et al. (U.S. Patent No. 5,914,944) in view of Dent (U.S. Patent 6,823,170 B1).

Regarding claim 1, Haugli discloses a method for receiving a first signal having a first frequency and receiving a second signal having a second frequency, the first and second frequency being different from a frequency of an incoming RF signal, i.e., as shown in Fig. 3, remote wireless terminals 20 communicate to station 11 via satellite 18 with links 19, links 19 are RF signals (col. 6/lines 10-35), and remote wireless terminals (as shown in Fig. 4), with a quadrature detector 56 provides two separate I and Q signals and they are also different in frequency to the received RF signals due to the fact of being downconverting to IF signals (col.

Art Unit: 2685

7/lines 5-37); and generating at least one local oscillator (LO) signal having a frequency determined as a function of the first and second frequencies, and at least one baseband signal as a function of the local oscillator and the RF signal is generated (Fig. 4, and col. 7/lines 5-37 for LO 64 and frequency synthesizer 55 in providing, and applying the LO oscillator signal to the quadrature detector 56 for generating baseband signal under the control of frequency controller 65; see further in Fig. 8, col. 11/lines 10-28).

Haugli does not further disclose the first and second frequency being different "from each other" (pre-amended); however, Dent teaches a similar system to Haugli, yet the signals are being different from each other at the receiving end of an incoming RF signal (refer to col. 3/lines 39-50 & col. 9/lines 25-30 as I and Q for S-band up-converter and S-band for different frequencies). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Haugli's system with Dent's teaching technique of having I and Q signals being different in order to avoid interferences on the S-band downlink between signals from different ground stations and different mobile subscribers as taught by Dent. This is the motivation for having different frequencies on incoming first and second signals.

As for claim 2, Haugli further discloses wherein the frequency of the local oscillator signal is one of a sum and a difference of the first and second frequencies, i.e., Figure 11 shows a computer algorithm in estimating the sum and the difference of the first and second frequencies as IF signals are transmitted in unique words or frames, and the error estimates are corrected for the voltage controlled LO reference crystal oscillator (col. 12/lines 32-64; and Fig. 8 for the

Art Unit: 2685

discussion of the LO signal is one of the sum and a difference of the first and second frequencies).

As for claim 3, Haugli further discloses wherein generating of the local oscillator signal comprises generating an in-phase LO signal and a quadrature LO signal (col. 7/lines 15-37; and col. 11/lines 10-38 for I and Q components).

As for claim 4, Haugli further discloses comprising applying the LO signal to convert the RF signal down to an in-phase baseband signal and a quadrature baseband signal (col. 7/lines 15-37 for downconverting to I and Q baseband signals; and col. 11/lines 10-38 for I and Q components).

As for claim 5, Haugli further discloses comprising a quadrature representation of at least one of the first and second signals (Fig. 4 for a quadrature detector 56 for the representation of at least one of the first and second signals).

Regarding claims 18-23 for the processor readable medium applied the same method, and claims 28-32 for an apparatus applied the same technique all are rejected for the reasons given in the scope of claim 1-5 in view of the combination Haugli and Dent, not limited to the cited paragraphs but also to the entire references, as discussed in details above.

### ***Conclusion***

4. **Any response to this action should be mailed to:**  
Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to the New Central Fax number:**

(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,  
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Art Unit: 2685

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**TONY T. NGUYEN  
PATENT EXAMINER**

Tony T. Nguyen  
Art Unit 2685  
March 13, 2006